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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,097

02/21/2006

Leung Choi Chow

2733.35WOUS

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7590

03/23/2010

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EXAMINER

MICHENER, JOSHUA J

ART UNIT

PAPER NUMBER

3644

MAIL DATE

DELIVERY MODE

03/23/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/552,097	<b>Applicant(s)</b> CHOW ET AL.	
	<b>Examiner</b> JOSHUA J. MICHENER	<b>Art Unit</b> 3644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 15-29 and 31-35 is/are pending in the application.
- 4a) Of the above claim(s) 19,21,22,24,31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-18,20,23,27-29 and 33-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/9/2010 has been entered.

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**Claims 15 – 18, 20, 23, 27 - 29, 33, 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hartel (US 3,133,717) in view of Roth (US 1,743,074).**

1. Regarding claims 15, 16, 17, 18, 23, 28, 29, 35 Hartel discloses an aircraft comprising movable landing gear between and stowed and retracted position (figures 1-3) wherein the landing gear comprises a wheel having a tire and a rim (figures 1 – 3) where a junction exists between the tire and rim forming a gap (figures 1 – 3).

Hartel fails to teach of a separate part that is provided between the junction to close the gap wherein a first surface is in contact with the tire, a second surface in contact with the wheel (rim) and a third surface that extends across the junction; wherein on at least one side of the wheel during use of the aircraft when airborne and the landing gear is in a position ready for

Art Unit: 3644

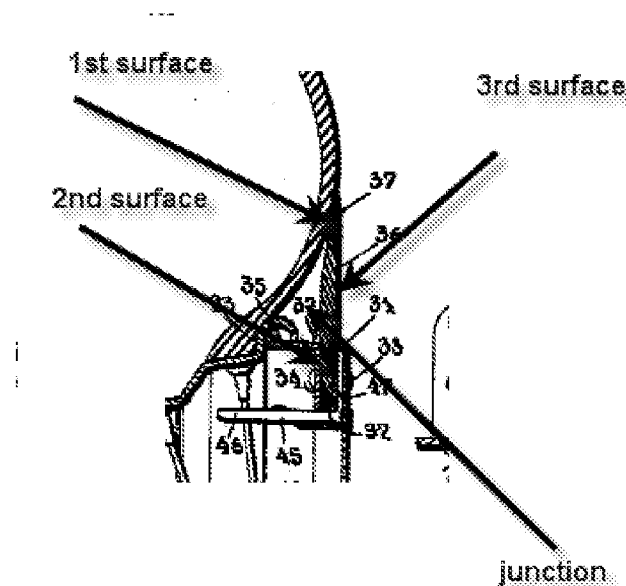
landing of the aircraft, the surface of the wheel/tire assembly presented to the airflow within the part bounded by the widest part of the tire is “substantially” smooth/planar in shape.

Roth discloses it is known to have a separate part on both sides of the wheel with a first surface in contact with the tire (see figure below), the second surface in contact with the rim (17,23,35,32,34) and third surface extending across the gap on an aircraft wheel (see figure below) wherein the separate part is flexible and made of rubber (col 2, line 21) thus deformable and capable to be moved manually; wherein the surface of the wheel/tire assembly presented to the airflow within the part bounded by the widest part of the tire is “substantially” smooth/planar in shape (fig below).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Hartel to comprise of a separate part that closes the gap between the junction on both sides of the wheel between the tire and rim and be substantially smooth section of the widest part as disclosed by Roth in order to reduce air resistance by streamlining the flow as taught by Roth (lines 5 – 11).

It should be appreciated that the applicant’s functional language in the claims does not serve to impart patentability. While features of an apparatus may be recited either structurally or functional, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. Apparatus claims cover what a device is, not what a device does. A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior apparatus teaches all the structural limitation of the claims.

Art Unit: 3644



Regarding claim 20, Hartel, as modified, discloses the apparatus as in claim 15 wherein at least a portion (the separate part is made of rubber) is so configured that once the force between the wheels and the ground exceeds a first given threshold force, it moves out of a gap that said separate part bridges when the aircraft is airborne, and once the force between the wheels and the ground drops to or below a second given threshold force, it moves back to the position in which it bridges the gap.

Regarding claim 27, Hartel, as modified, discloses the apparatus as in claim 15, wherein the landing gear are suitable for jet engine aircraft with undercarriage cargo bay storage, but is silent to type/size suitable for 50 or more passengers. However, the Examiner takes official notice, it is old and well known in the art that commercial airliners are comprised of retractable landing gear with undercarriage bay storage wherein some jet engine airliners carry 50 or more passengers. Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to implement this landing gear system of Hartel, as modified into an airliner

Art Unit: 3644

that carries 50 or more passengers because it is old and well known to utilize retractable landing gear on commercial airlines to reduce air drag during takeoff and landing.

Regarding claim 33, Hartel, as modified, discloses the apparatus as in claim 15 wherein the first surface follows the shape of the tire (see figure above).

Regarding claim 34, Hartel, as modified, discloses the apparatus as in claim 15 wherein the first surface follows the shape of the rim (see figure above).

**Claims 15 – 18, 20, 23, 27 - 29, 33, 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Labrecque (US 3,430,896) in view of Roth (US 1,743,074).**

2. Regarding claims 15, 16, 17, 18, 23, 28, 29, 35 Labrecque discloses an aircraft comprising movable landing gear between and stowed and retracted position (figures 1-4) wherein the landing gear comprises a wheel having a tire and a rim (figures 1 –4) where a junction exists between the tire and rim forming a gap (figures 1 –4).

Labrecque fails to teach of a separate part that is provided between the junction to close the gap wherein a first surface is in contact with the tire, a second surface in contact with the wheel (rim) and a third surface that extends across the junction; wherein on at least one side of the wheel during use of the aircraft when airborne and the landing gear is in a position ready for landing of the aircraft, the surface of the wheel/tire assembly presented to the airflow within the part bounded by the widest part of the tire is substantially/planar smooth in shape.

Roth discloses it is known to have a separate part on both sides of the wheel with a first surface in contact with the tire (see figure below), the second surface in contact with the rim (17,23,35,32,34) and third surface extending across the gap on an aircraft wheel (see figure below) wherein the separate part is flexible and made of rubber (col 2, line 21) thus

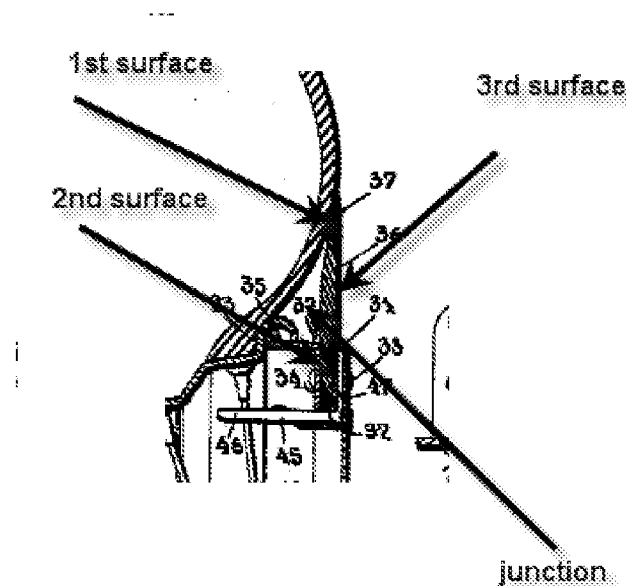
Art Unit: 3644

deformable and capable to be moved manually; wherein the surface of the wheel/tire assembly presented to the airflow within the part bounded by the widest part of the tire is substantially smooth/planar in shape (fig below).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Labrezque to comprise of a separate part that closes the gap between the junction on both sides of the wheel between the tire and rim and be substantially smooth section of the widest part as disclosed by Roth in order to reduce air resistance by streamlining the flow as taught by Roth (lines 5 – 11).

It should be appreciated that the applicant's functional language in the claims does not serve to impart patentability. While features of an apparatus may be recited either structurally or functional, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. Apparatus claims cover what a device is, not what a device does. A claim containing a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus if the prior apparatus teaches all the structural limitation of the claims.

Art Unit: 3644



Regarding claim 20, Labrezque, as modified, discloses the apparatus as in claim 15 wherein at least a portion (the separate part is made of rubber) is so configured that once the force between the wheels and the ground exceeds a first given threshold force, it moves out of a gap that said separate part bridges when the aircraft is airborne, and once the force between the wheels and the ground drops to or below a second given threshold force, it moves back to the position in which it bridges the gap.

Regarding claim 27, Labrezque, as modified, discloses the apparatus as in claim 15, wherein the landing gear are suitable for jet engine aircraft with undercarriage cargo bay storage, but is silent to type/size suitable for 50 or more passengers. However, the Examiner takes official notice, it is old and well known in the art that commercial airliners are comprised of retractable landing gear with undercarriage bay storage wherein some jet engine airliners carry 50 or more passengers. Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to implement this landing gear system of Labrezque, as



Art Unit: 3644

modified into an airliner that carries 50 or more passengers because it is old and well known to utilize retractable landing gear on commercial airlines to reduce air drag during takeoff and landing.

Regarding claim 33, Labrezque, as modified, discloses the apparatus as in claim 15 wherein the first surface follows the shape of the tire (see figure above).

Regarding claim 34, Labrezque, as modified, discloses the apparatus as in claim 15 wherein the first surface follows the shape of the rim (see figure above).

### ***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA J. MICHENER whose telephone number is (571)272-1467. The examiner can normally be reached on Monday through Friday 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mansen can be reached on 571-272-6608. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua J Michener  
Examiner  
Art Unit 3644

/Joshua J Michener/  
Examiner, Art Unit 3644